

CIA/OSR /MEMO PA 750829 ESTIMATED ICBM DOLLAR COSTS AUG 75  
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CENTRAL INTELLIGENCE AGENCY

WASHINGTON, D.C. 20505

CIA/OSR

MEMO PA 75-0829

OSR No.

29 August 1975

MEMORANDUM FOR: Mr. Victor E. Alessi  
NWT/SA  
Arms Control and Disarmament Agency

SUBJECT : Estimated ICBM Dollar Costs

1. Attached are estimated dollar costs for producing the SS-X-16, SS-17, SS-18 and SS-19 ICBM systems and converting SS-9 and SS-11 facilities (silos and ground support equipment) to accommodate the SS-18 and SS-19 missiles respectively. Estimated annual O&M costs are also attached but no costs for RDT&E are included. These dollar costs are provided as cumulative average costs in 1973 prices. The production quantity was normalized to a program of 500 missiles for each system.

2. The missile estimates were derived by using a Cost Estimating Relationship (CER) model that predicts costs according to lift-off weight, thrust, propellant weight, throw weight, RV weight, and the number of RV's.

Cost estimates for converting the ground support equipment for the new missiles are based on the costs of analogous US conversions. Operations and maintenance costs are derived by using USAF cost factors for estimating O&M costs of future US missile systems.

3. As you can see, the costs to deploy an ICBM are sensitive to many variables. Therefore, we could not give you a straightforward answer to your query about the

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relationship between throw weight and costs. Furthermore we cannot generalize from our cost estimates of the SS-X-16, SS-17, SS-18, and SS-19 to state that the relationship between their costs and throw weights will hold for any group of missiles. Although an ICBM missile, twice the size of another would probably be the more costly, we cannot say without detailed information, what the difference in cost might be.

4. In addition, while the dollar cost estimates of Soviet programs reflect the cost of procuring and maintaining those programs in the US, they do not reflect the Soviet view of the effort. Intuitively, one would expect a ranking of ICBMs by cost to be similar in both dollars and rubles. We cannot, however, say that the Soviet Union would choose a particular mix of ICBMs based on the ranking of our cost estimates in either dollars or rubles. The estimates are not that precise and we have no firm evidence on the role economics plays in the choice of which ICBMs the Soviet Union will deploy. Technical feasibility and service needs must certainly be major considerations.

5. Finally, we caution you to avoid comparisons between cost estimates and capabilities. Equal dollar values for different weapon systems do not necessarily imply equal contributions to military capabilities. Technical and force related information must be considered for such judgements.

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For Acting Chief,  
Cost Analysis Branch, SR/PA

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ATTACHMENT 1

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Estimated Dollar Costs of Soviet ICBMs  
(In million 1973 dollars)

| <u>Procurement Costs*/Missile</u>                          |                     | <u>Cumulative<br/>Average Cost</u> |
|--|---------------------|------------------------------------|
| <u>System</u>  | <u>Throw Weight</u> |                                    |
| SS-X-16  | 2.0                 | 3                                  |
| SS-17  | 5.5                 | 5                                  |
| SS-18  | 15.0                | 9                                  |
| SS-19  | 7.0                 | 6                                  |
| <u>Facilities Conversion</u>                               |                     |                                    |
| SS-9 to SS-18  |                     | 8                                  |
| SS-11 to SS-19   |                     | 5                                  |
| <u>Annual Operation and Maintenance<br/>Costs/Launcher</u> |                     |                                    |
| SS-18  |                     | 2                                  |
| SS-19  |                     | 1                                  |

\*Excluding Nuclear Warhead Costs.

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